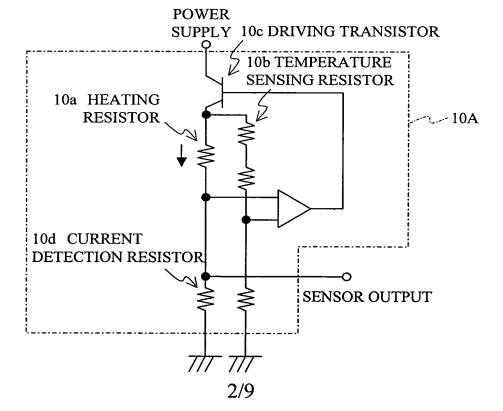


FIG.3



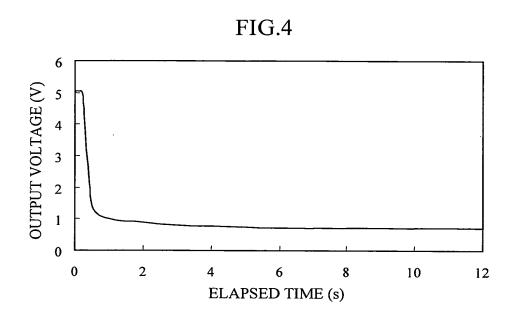
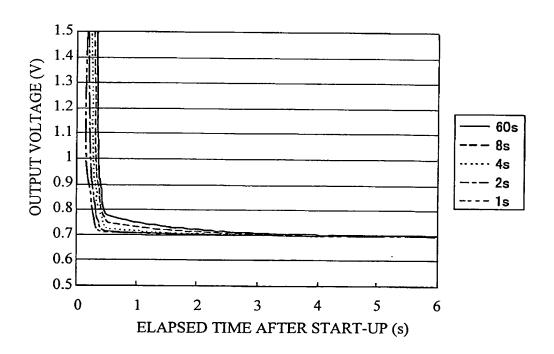
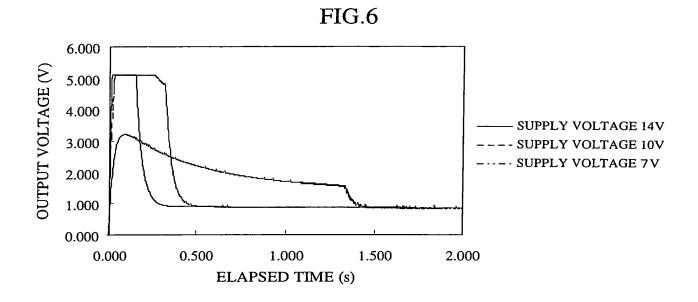


FIG.5





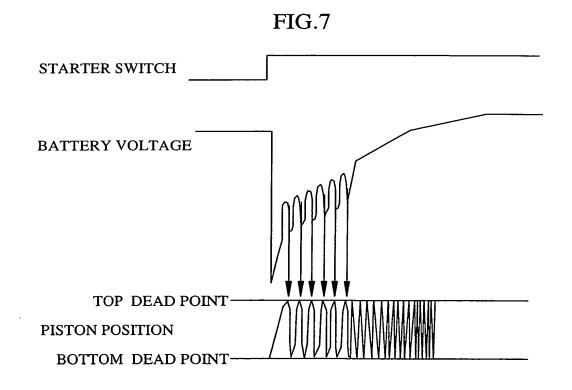


FIG.8	CONDITION A FULFILLMENT FLAG \leftarrow 1 CONDITION A FULFILLMENT TIME COUNTER> = FLAG \leftarrow 1 FLAG \leftarrow 1 PREDETERMINED VALUE C5	CONDITION A FULFILLMENT TIME COUNTER COUNTED UP	CONDITION A FULFILLMENT FLAG $\leftarrow 0$	CONDITION A FULFILLMENT TIME COUNTER ←U		CONDITION B FULFILLMENT FLAG ← 1	CONDITION B FULFILLMENT $\left\langle \begin{array}{c} \text{CONDITION B EMPIRICAL} \\ \text{FLAG} \leftarrow 1 \end{array} \right\rangle$	PREDETERMINED VALUE c5	CONDITION B FULFILLMENT TIME COUNTER COUNTED UP	CONDITION B FULFILLMENT FLAG $\leftarrow 0$	CONDITION B FULFILLMENT TIME COUNTER $\leftarrow 0$		CONDITION B EMPIRICAL FLAG = 0 SURGE TIME COUNTER COUNTER	SURGE TIME COUNTER $\leftarrow 0$
	CON	CON	CON			(CO)	CON	- RE	NOS /	 loo 	S S		(S)	SUR
CONDITION A	ELAPSED TIME AFTER KEY ON <predetermined &&="" air="" c3="" c4="" flow="" opening<predetermined="" output="" sensor="" throttle="" value="" voltage="">= PREDETERMINED VALUE c1</predetermined>			ELAPSED TIME AFTER KEY ON COUNTER COUNTED UP	CONDITION B	CONDITION A EMPIRICAL FLAG = 1	&& AIR FLOW SENSOR OUTPUT VOLTAGE < PREDETERMINED VALUE c2 && BATTERY VOLTAGE > =	PREDETERMINED VALUE c6				SURGE TIME MEASUREMENT [4ms]	CONDITION A EMPIRICAL FLAG 1=1	

31G.9

ELEMENT LEAD INITIAL TEMPERATURE INDEX CALCULATION

ELEMENT LEAD INITIAL TEMPERATURE INDEX CALCULATION COMPLETION FLAG = 0	CONDITION B EMPIRICAL FLAG = 1		CALCULATE ELEMENT LEAD INITIAL TEMPERATURE INDEX FROM ←SURGE TIME COUNTER VALUE, PREDETERMINED VALUE 67, AND BATTERY VOLTAGE CORRECTED VALUE
			ELEMENT LEAD INITIAL TEMPERATURE INDEX CALCULATION COMPLETION FLAG ← 1
		SURGE TIME	ELEMENT LEAD INITIAL TEMPERATURE INDEX
		COUNTER > PREDETERMINED	← PREDETERMINED VALUE c9
		VALUE c8	ELEMENT LEAD INITIAL TEMPERATURE INDEX
			CALCULATION COMPLETION FLAG ← 1

FIG 10

BATTERY VOLTAGE CORRECTION CALCULATION

CALCULATE HEATING ENERGY VALUE INTEGRATED FROM THE PREDETERMINED VALUES c10, c11, AND c12 HEATING ENERGY CALCULATION 1ST EMPIRICAL FLAG ← 1	(CONDITION A FULFILLMENT FLAG = 1 HEATING ENERGY INTEGRATED CONDITION A EMPIRICAL FLAG = 1 VALUE ← HEATING ENERGY INTEGRATED VALUE (LAST TIME) HEATING ENERGY INTEGRATED VALUE (LAST TIME) HEATING ENERGY INTEGRATED VALUE (LAST TIME) HEATION B EMPIRICAL FLAG = 0 PREDETERMINED VALUE c8)^2	IRGY	LUE LUE
CALCUL FROM TI HEATIN	CONDITIO	IEATING E	← RESUL CORRECTI VVERAGE
	100-0	ZED V	ACE (GY /
HEATING ENERGY CALCULATION IST EMPIRICAL FLAG = 0		HEATING ENERGY AVERAGE VALUE ← HEATING ENERGY INTEGRATED VALUE/(PREDETERMINED VALUE ¢9 + SURGE TIME COUNTER)	BATTERY VOLTAGE CORRECTED VALUE ← RESULT OF SEARCHING IN THE BATTERY VOLTAGE CORRECTION VALUE TABLE WITH HEATING ENERGY AVERAGE VALUE

FIG 1

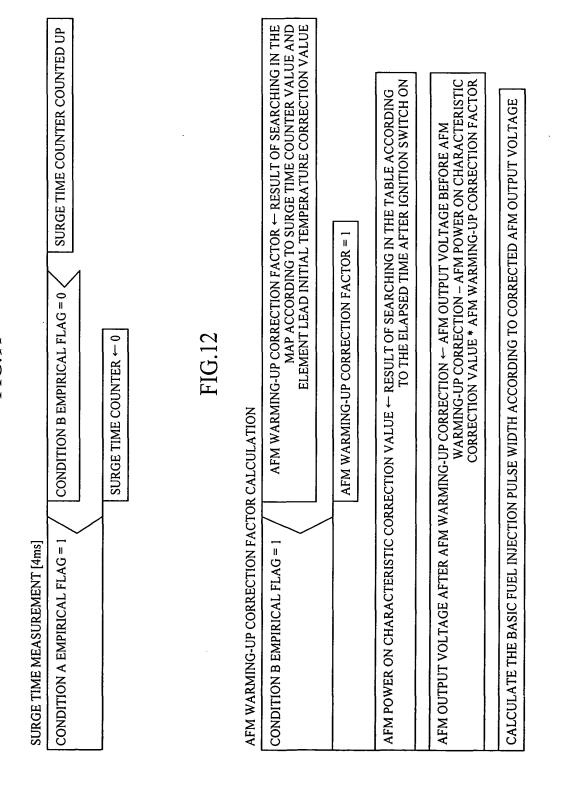


FIG.13

SURGE TIME COUNTER COUNTED UP ELEMENT LEAD INITIAL TEMPERATURE CORRECTION VALUE ← RESULT OF SEARCHING IN THE ELEMENT LEAD INITIAL TEMPERATURE CORRECTION TABLE ACCORDING TO ELEMENT LEAD INITIAL TEMPERATURE ELEMENT LEAD INITIAL TEMPERATURE ← RESULT OF SEARCHING IN THE ELEMENT LEAD INITIAL TEMPERATURE TABLE ACCORDING TO SURGE TIME CONDITION B EMPIRICAL FLAG = 0 CONDITION A EMPIRICAL FLAG = 1